BRAVO Zulu

Warrior 23, a flight of one AH-1W and one UH-1N, was on a routine mission over the Al Anbar Province in western Iraq to conduct visual reconnaissance of the area. The UH-1N crew was Dash 2 of the mixed section. The crew was Capt. Clint R. Marshall, 1stLt. Karl C. Wethe, Sgt. Robert A. Murphy, and Sgt. Jacy L. Alexander.

Their first area of interest, 40 miles north of forward-operating base (FOB) Korean Village, was a town named Akashat. As the section maneuvered around the town, the UH-1N got a No. 1 engine chip light. Capt. Marshall quickly notified the section leader, while Lt. Wethe pulled out the pocket checklist, and began to read the procedures. As Capt. Marshall finished the radio call, the inner-turbine temperature (ITT) dropped to zero, and the No. 1 engine fuel flow began to fluctuate. However, the gas-producer (Ng) and free-turbine (Nf) indications still were within normal operating ranges. Once the aircrew determined the No. 2 engine still was producing power and operating normally, Capt. Marshall completed the emergency procedures and rolled the No. 1 engine to idle. The plan was to roll back the No. 1 engine to full open for landing.

This operating area provided a unique challenge for the UH-1N. On a normal day, the UH-1N requires 68-percent torque to land; however, it only has 63-percent torque available in a single-engine situation, which leaves a minus-five-percent-power margin in a single-engine emergency.

The Warrior flight continued to press home at 75 knots. The terrain had enormous valleys and ravines, which were unsuitable for a single-engine landing, especially considering no friendly patrols were in the area.

Forty miles north of the FOB, just as the flight encountered rising terrain in the area, lead reported smoke from the No. 1 engine exhaust area. Capt. Marshall left the engine on-line during the climb until they were clear of terrain. Sgt. Alexander inspected the engine area and confirmed the trail of smoke.

Because of terrain and weight considerations, the crew waited until clear of the terrain to expend the majority of their ammunition, then secured the No. 1 engine. The crew expended 300 rounds of .50 caliber, and 1,300 rounds 7.62, leaving only enough to provide security if they were forced to land outside a friendly location.

Sgt. Alexander then saw JP-8 leaking from the No. 1-engine area; the crew secured the No. 1 engine. Once the pilots completed the checklist, the fuel leak stopped, and the engine ceased smoking. The crew reviewed their single-engine parameters and computed the minimum airspeed for their weight, altitude, and weather conditions.

Once within radio range of the tower, the lead aircraft told tower of the situation and asked that any obstacles be removed for the UH-1N's single-engine landing. As the flight approached the FOB from the north, the aircrew jettisoned the remaining flares and dropped the remaining ordnance over the friendly perimeter, where it could be recovered later.

The aircrew made one pass over the FOB to determine the best single-engine approach, based on the wind. The pilots decided on a south-to-north approach, using the headwind to their advantage. They touched down on the gravel with 35 knots of groundspeed and slid to rest within the friendly perimeter.

On postflight, the crew discovered a 2-by-.5-inch hole in the combustion section of the engine, which appeared to have been caused by a power-turbine blade that broke in half. The hole explained the fuel leaking from the engine and the loss of ITT indications in the cockpit.

The aircrew's quick thinking, good headwork, and adherence to NATOPS procedures prevented the possible loss of life and aircraft, and demonstrated the importance of good crew coordination.

1stLt. Karl C. Wethe, Capt. Clint R. Marshall, Sgt. Robert A. Murphy, Sgt. Jacy L. Alexander